Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

(DRAFT)
Title V, Operating Permit: V-08-002

Griffin Industries, Inc.
Cold Spring, KY 41076-1897
January 30, 2008
Massoud Kayvanjah, Reviewer

SOURCE ID:	21-191-00007
AGENCY INTEREST:	3408
ACTIVITY:	APE20070001

SOURCE DESCRIPTION:

On December 12, 2007 Griffin Industries, Inc. (Griffin) submitted a renewal application of their permit V-02-033R1 for their rendering and bakery scrap facilities in Butler, Pendleton County, Kentucky. The rendering facility processes animal by-product materials into tallow, grease, and high protein meat and bone meal. The bakery scrap operation dries scrap breads and dough to form cookie meal. There have been no significant changes at the facility since the last permitting action.

APPLICABLE REGULATIONS:

401 KAR 59:015, New Indirect Heat Exchangers for affected facilities with a heat input capacity of 250 MMBtu/hr or less and commenced on or after April 9, 1972, applies to boilers EU 01-03;
401 KAR 59:010, New Process Operations not subject to another emission standard with respect to particulates and commenced after July 2, 1975, applies to EU 03 and EU 07;
401 KAR 59:020, New Incinerators, applicable for incinerators commenced after June 6, 1979 with a charging rate of fifty tons/day or less, applies to EU 07;
401 KAR 60:005, incorporated by reference 40 CFR 60, Subpart WWW, Standards of performance for municipal solid waste landfills, applies to EU 01 and EU 02;
401 KAR 63:010, Fugitive emissions is applicable to each affected facility which emits or may emit fugitive emissions and is not elsewhere subject to an opacity standard within the administrative regulations of the Division for Air Quality;
40 CFR 279, Standards of Management of Used Oil and 40 CFR 761, PCBs Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions, applies to EU 01 and EU 02;
401 KAR 61:005, General Provisions;

Non-Applicable Regulations:

Section 112(j) of the Clean Air Act. Permittee has elected to accept voluntary federally enforceable operating and emission limits to preclude applicability of these standards

401 KAR 51:017, Prevention of Significant Deterioration of Air Quality.

Emissions Units 01 and 02 (EPs 01, 02) Indirect Heat Exchangers

Two 33.5 MMBtu/hr Cleaver Brooks horizontally opposed fired boilers – These boilers are used to supply heat to the various processes of the facility. These units can burn: #6 fuel oil, "on spec" used oil, landfill gas and recycled cooking oil.

To preclude the applicability of 401 KAR 51:017 and Section 112(j) of the Clean Air Act, #6 fuel oil consumption for emission unit 01 and 02 unit shall not exceed 510,000 gallons per year on a twelve-month rolling total. The sulfur content of #6 fuel oil shall not exceed 0.5 percent by weight per ASTM standards. Additionally, "on spec" used oil usage for each unit shall not exceed 525,000 gallons per year on a twelve-month rolling total. The sulfur and ash content of "on spec" used oil shall not exceed 0.5 percent and 0.77 percent by weight per ASTM standards, respectively.

To preclude the applicability of Section 112(j) of the Clean Air Act, the halogen content of each shipment of "on spec" used oil shall not exceed 800 ppm of Total Halogens.

Pursuant to 40 CFR 279, 40 CFR 761.20, and to preclude Section 112(j) of the Clean Air Act, On-Specification (On-Spec) Used Oil shall not exceed the allowable levels below:

ON-SPEC USED OIL SPECIFICATIONS	
Constituent/Property	***Allowable Level***
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total halogens	800 ppm maximum
Flash Point	100 °F minimum
PCBs	less than 2 ppm

Pursuant to 40 CFR 60, Subpart WWW, the owner or operator of a combustion device who uses or purchases landfill gas for fuel in the combustion device shall use the gas only as a fuel, and venting of treated landfill gas to the ambient air is not allowed.

Pursuant to 401 KAR 59:015, Section 4(1)(c), particulate emissions shall not exceed 0.32 lb/MMBtu each, based on a three-hour average.

Pursuant to 401 KAR 59:015 Section 4 (2), visible emissions shall not exceed twenty (20) percent opacity except:

(1) that a maximum of forty percent opacity shall be permissible for not more than six consecutive minutes in any sixty consecutive minutes during cleaning of the fire box or blowing soot;

(2) for emissions during building a new fire for the period required to bring up to operating conditions provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations.

Pursuant to 401 KAR 59:015, Section 5(1)(c), sulfur dioxide emissions shall not exceed 1.11 lb/MMBtu each, based on a twenty-four-hour average.

Pursuant to 401 KAR 50:045, the permittee shall submit a schedule within six months from the issuance of the final permit to conduct at least one performance test for particulate matter and sulfur dioxide within one year following the issuance of the final permit. This performance test may be conducted on either emission unit 01 or 02, the results from which shall be considered representative of the emission unit not tested. This performance test shall be conducted while burning a representative liquid fuel.

Pursuant to 401 KAR 52:020, Section 26, the permittee shall perform a qualitative visible observation of the opacity emissions from the stack on a daily basis and maintain a log of the observations. If visible emissions from the stack are seen, then the opacity shall be determined by EPA Reference Method 9 and if the opacity reading is greater than 20 percent, then initiate an inspection of the equipment for any repairs.

Emission Unit 03 (EP 03) Indirect Heat Exchanger

45.8 MMBtu/hr coal boiler, overfeed stoker – This boiler is used, as necessary, to supply heat to the various processes of the facility. Emission factor information for this unit was taken from AP-42 data. Mechanical collectors are used to control emissions from this unit.

Pursuant to 401 KAR 59:015, Section 4(1)(c), particulate emission shall not exceed 0.32 lbs/MMBtu based on a three-hour average.

Pursuant to 401 KAR 59:015 Section 4 (2), visible emissions shall not exceed twenty (20) percent opacity except:

(1) that a maximum of forty (40) percent opacity shall be permissible for not more than six (6) consecutive minutes in any sixty (60) consecutive minutes during cleaning of the fire box or blowing soot;

(2) for emissions during building a new fire for the period required to bring up to operating conditions provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations.

Pursuant to 401 KAR 59:015, Section 5(1)(c), sulfur dioxide emissions shall not exceed 1.57 lbs/MMBtu based on a twenty-four-hour average.

Pursuant to 401 KAR 50:045, the permittee shall submit a schedule within six months from the issuance of the permit to conduct at least one performance test for particulate matter and sulfur dioxide within one year following the issuance of the permit.

Pursuant to 401 KAR 52:020, Section 26, the permittee shall perform a qualitative visible observation of the opacity emissions from the stack on a daily basis and maintain a log of the observations. If visible emissions from the stack are seen, then the opacity shall be determined by EPA Reference Method 9 and if the opacity reading is greater than 20 percent, then initiate an inspection of the equipment for any repairs.

Emissions Unit 04 (EPs 04, 05) Rendering Process

A cooker is used to remove moisture from incoming inedible animal by-products. Through this process the animal by-products are processed into tallow, grease and high protein meat and bone meal. To control emissions of particulates (PM) and volatile organic compound (VOC) a venturi scrubber, packed tower scrubber, and room air scrubber are used.

Pursuant to 401 KAR 59:010, Section 3(1)(a), any continuous emissions into the open air shall not equal or exceed 20 percent opacity based on a six-minute average.

Pursuant to 401 KAR 59:010, Section 3(3), particulate emissions from the stack shall not exceed $[3.59(P)^{0.62}]$ pound per hour based on a three-hour average where P is the weekly average processing rate in tons per hour.

Pursuant to 50:045, the permittee shall perform at least one performance test for particulate emissions by EPA Reference Methods 5, six month from the issuance of the final permit to demonstrate compliance with the particulate standard. Emission factors derived from stack testing are to replace the emission factor currently listed in the permit, and shall be used to calculate future emissions.

Pursuant to 401 KAR 52:020, Section 26, the permittee shall perform a qualitative visible observation of the opacity emissions from the stack on a daily basis and maintain a log of the observations. If visible emissions from the stack are seen, then the opacity shall be determined by EPA Reference Method 9 and if the opacity reading is greater than 20 percent, then initiate an inspection of the equipment for any repairs.

Emissions Unit 05 (EP 06) Raw material and stock unloading and loading to hoppers

Incoming bakery scrap is unloaded, stored and loaded to process feed hoppers prior to entering the dryer. This process can operate up to 60 tons per hour.

Fugitive Emissions, 401 KAR 63:010 Section 3, applies to this unit which requires that no person shall cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate. In addition, reasonable precautions shall be taken to prevent particulate matter from becoming airborne, including the materials processed at each unit listed above shall be controlled with wet suppression and/or enclosures so as to comply with the standards specified in Section 3 of 401 KAR 63:010, Fugitive emissions. Compliance is demonstrated when daily observations indicate no visible fugitive dust emissions extend beyond the property line and that the processes and controls are operating normally. Observations and records, if applicable, shall be utilized to document failure to comply.

Emissions Unit 06 (EP 07) Close-Coupled Gasification (CCG) Incinerator and Dryer

Bakery scrap is fed to a dryer, which can operate at 25 tons per hour to remove moisture to produce the "cookie meal" product. The CCG unit is used to supply heat to the process (22.5 MMBtu/hr), which burns sawdust and scrap-packaging materials as fuel, and can use up to 2812 lbs/hr of sawdust or 1500 lbs/hr of scrap packaging for maximum a total of 50 tons per day. A cyclone is used to control particulate emissions from the CCG unit. Emission factor information was taken from stack test data for particulates and hydrogen chloride.

Pursuant to 401 KAR 59:020, New Incinerators, the CCG unit charging rate shall not exceed 50 tons per day of sawdust and scrap packaging materials.

Pursuant to 401 KAR 59:020, Section 3(2)(a), particulate matter emissions from the CCG unit shall not exceed 0.23 g/dscm (0.1 gr/dscf) corrected to twelve (12) percent carbon dioxide excluding the contribution of carbon dioxide from auxiliary fuel.

Pursuant to 401 KAR 59:010, Section 3(3), particulate emissions from the stack shall not exceed $[3.59(P)^{0.62}]$ pound per hour based on a three-hour average where P is the weekly average processing rate in tons per hour.

Pursuant to 401 KAR 59:020, Section 3(1), visible emissions shall not exceed twenty (20) percent opacity based on a six-minute average.

Pursuant to 50:045, the permittee shall perform at least one performance test for particulate emissions by EPA Reference Methods 5, six month from the issuance of the final permit to demonstrate compliance with the particulate standard. Emission factors derived from stack testing are to replace the emission factor currently listed in the permit, and shall be used to calculate future emissions.

Pursuant to 401 KAR 52:020, Section 26, the permittee shall perform a qualitative visible observation of the opacity emissions from the stack on a daily basis and maintain a log of the observations. If visible emissions from the stack are seen, then the opacity shall be determined by EPA Reference Method 9 and if the opacity reading is greater than 20 percent, then initiate an inspection of the equipment for any repairs.

Emissions Unit 07 (EP 08) Product blending, size reduction, and storage

Once the cookie meal product is dried it goes through mixing and size reduction and then goes to storage. This process can operate up to 46.2 tons per hour.

Pursuant to 401 KAR 59:010, Section 3(3), particulate emissions from the stack shall not exceed $[3.59(P)^{0.62}]$ pound per hour based on a three-hour average where P is the weekly average processing rate in tons per hour.

Pursuant to 401 KAR 59:010, Section 3(1)(a), any continuous emissions into the open air shall not exceed twenty (20) percent based on a six-minute average.

Emissions Unit 08 (EP 09) Product Loadout

Emission Unit 09 - The finished cookie meal product is loaded to be shipped out. This process can operate at 46.2 tons per hour.
Fugitive Emissions, 401 KAR 63:010 Section 3, applies to this unit.

EMISSION AND OPERATING CAPS DESCRIPTION:

- To preclude the applicability of 401 KAR 51:017, Prevention of significant deterioration, source-wide sulfur dioxide and volatile organic compounds emissions shall not exceed 225 tons per year based on a twelve (12) month rolling total [V02-033R1].
- To preclude the applicability of Section 112(j) of the Clean Air Act, total source-wide Hydrogen Chloride (HCl) emissions shall not exceed 9.0 tons per year and combined HAPs shall not exceed 22.5 tpy[V02-033R1].
- To preclude the applicability of 401 KAR 51:017, source wide coal consumption shall not exceed 9,000 tons per year on a twelve-month rolling total and the sulfur content of the coal shall not exceed 1.0 percent by weight [V02-033R1].

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.